

## COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENT

This Cooperative Research and Development Agreement is entered into by and between Environmental Systems Research Institute, Inc., ESRI, ("the Collaborator") and the Cooperative Research Laboratory, a laboratory within the Bureau of the Census of the United States Department of Commerce (hereinafter "the Census Bureau"). The Collaborator and the Census Bureau are hereinafter sometimes referred to as "the Parties." The Parties agree as follows:

### Article 1. Definitions

1.1. The term "Cooperative Research Program" means the research activities described in Article 2 that are jointly undertaken by the Parties under the terms of the Federal Technology Transfer Act (15 U.S.C. § 3710a).

1.2 The term "Invention" means any invention or discovery which is or may be patentable under Title 35 of the United States Code (35 U.S.C. § 100 et seq.).

1.3 The term "Made" in relation to any invention means the conception or first actual reduction to practice of such invention.

1.4 The term "Proprietary Information" means information which embodies trade secrets developed exclusively at private expense or which is confidential business or financial information provided that such information:

- (i) Is not generally known or available from other sources without obligations concerning its confidentiality;
- (ii) Has not been made available by the owners to others without obligation concerning its confidentiality;  
and
- (iii) Is not already available to the Government without obligation concerning its confidentiality.

1.5 The term "Subject Data" means all recorded information first produced in the performance of this agreement. However, this term does not include information incidental to the administration of

this agreement, such as financial, administrative, cost and pricing, or management information.

1.6 The term "Subject Invention" means any invention conceived or first actually reduced to practice in the performance of work under this Agreement.

1.7 The term "Statement of Work" or "SOW" means those agreements executed in accordance with Article 2 herein, describing research projects to be performed under this CRADA.

1.8 The term "Joint Work Order" or "JWO" means those documents executed by the Project Manager for each Party in accordance with Article 2.5 herein, specifying the details of the research projects outlined in each SOW.

1.9 The term "Principal Investigator" or "PI" means that individual appointed by each Party to supervise each SOW.

1.10 The term "Project Manager" or "PM" means that individual appointed by each Party to manage the details of each SOW.

1.11 The term "Signatories" means the individuals who sign this CRADA, or their successors in equivalent positions.

## **Article 2. Statements of Work/Joint Work Orders**

2.1 Statements of Work. Cooperative research performed under this Agreement shall be performed in accordance with various Statements of Work ("SOWs"), which shall become a part of this Agreement when executed. The first two SOWs shall be executed concurrent with the execution of this CRADA and are attached hereto as Exhibits "A" and "B". Additional SOWs may be entered into during the term of this Agreement.

2.2 Modification. This Agreement may be modified by mutual written agreement between the Collaborator and the Census Bureau, as evidenced by the execution of a written amendment executed by the Signatories. SOWs may be modified by mutual written agreement between the Collaborator and the Census Bureau, as evidenced by the execution of a written amendment executed by the Principal Investigators.

2.3 Regular Meetings. The Collaborator and the Census Bureau agree to meet at least once in each calendar year to review all pending SOWs. SOWs may specify the frequency of additional meetings.

2.4 Principal Investigators and Project Managers. The Parties shall designate a Principal Investigator and a Project Manager in each SOW. Either Party may change a Principal Investigator or a Project Manager by written notification to the other Party; however, the other Party may object, in writing, to the new Principal Investigator or Project Manager within 15 days of designation, in which event another individual will be proposed.

2.5 Joint Work Orders. Project Managers shall periodically, as the need arises, jointly execute JWOs. JWOs, while informal documents, shall constitute the principle written record of the research performed under each SOW. The general function of JWOs is to describe specific tasks to be undertaken, identify individuals who will be working on the SOW, set timetables, milestones and, if applicable, describe marketing plans.

### **Article 3. Financial Obligation**

The financial obligations of each Party shall be described in each SOW. In no event shall the Census Bureau transfer funds as part of this Agreement.

### **Article 4. Patent Rights**

4.1 Reporting. The Census Bureau shall promptly report in writing to Collaborator each Subject Invention disclosed to the Census Bureau by its employees. The Collaborator shall promptly report in writing to the Census Bureau each Subject Invention disclosed to it by its employees. Pursuant to 35 U.S.C. § 205, such reports shall be treated in confidence by the receiving Party until such time as a patent or other intellectual property application claiming that Subject Invention has been filed.

4.2 Collaborator Employee Inventions. Subject to Article 4.3, the Census Bureau, on behalf of the U.S. Government, waives any ownership rights the U.S. Government may have in Subject Inventions made by the Collaborator's employees under the project

and agrees that the Collaborator shall have the option to retain title to any such employee Subject Invention. The Collaborator shall promptly notify the Census Bureau in writing upon making this election and agrees to file patent applications on such Subject Invention at its own expense and in a timely fashion. The Collaborator agrees to and hereby grants to the U.S. Government on its employees' Subject Inventions a nonexclusive, irrevocable, paid-up license in the patents covering a Subject Invention to practice or have practiced, throughout the world by, or on behalf of the U.S. Government. Such nonexclusive license shall be evidenced by a confirmatory license agreement prepared by the Collaborator which is mutually agreed to by both Parties. (See Article 4.4.)

4.3 Census Bureau Employee Inventions and Joint Inventions. The Census Bureau, on behalf of the U.S. Government, shall have the initial option to retain title to each Subject Invention made by its employees. Each Subject Invention made jointly by one or more Collaborator employees and one or more Census Bureau employees shall be jointly owned and the Parties will agree to decide on the patenting and licensing of these inventions.

4.4 Filing of Patent Applications. Each Party will notify the other Party of a patent application filing for a Subject Invention under this Agreement. The Party having the right to retain title and file a patent application on a specific Subject Invention may elect not to file an application thereon, provided it so advises the other Party in writing within 90 days from the date it reports the Subject Invention to the other Party. Thereafter, the other Party may elect to file patent applications on such Subject Invention and the Party initially reporting such Subject Invention agrees to assign its right, title, and interest in such Subject Invention to the other Party and cooperate with such Party pursuant to this paragraph. Such an assignment shall be subject to the retention by the Party assigning title of a nonexclusive, irrevocable, paid-up (and, if the inventor is a government employee, non-transferable) license to practice, or have practiced, the Subject Invention throughout the world. In the event neither of the Parties elects to file a patent application on Subject Invention, either or both (if a joint invention) may, at their sole discretion and subject to reasonable conditions, release the right to file to the inventor(s) with a license in each Party of the same scope as set forth in the immediately preceding sentence.

4.5 Patent Expenses. All of the expenses attendant to the filing of patent applications, as specified in 4.4 above, shall be borne by the Party filing and owning the patent application in whole or in part. Any post-filing and post-patent fees shall also be borne by the same Party. Each Party shall provide the other Party with copies of the patent applications it files on any Subject Invention along with the power to inspect and make copies of all documents retained in the official patent application files by the applicable patent office immediately after filing.

4.6 Exclusive License.

4.6.1 Grants. The Census Bureau, on behalf of the Government, hereby agrees to grant to the Collaborator an exclusive license in each U.S. patent application, and patents issued thereon, covering a Subject Invention, which is filed by the Census Bureau on behalf of the U.S. Government subject to (1) the reservation of an irrevocable, non-exclusive, non-transferable royalty-free license to practice and have practiced the Subject Invention on behalf of the U.S. Government; and (2) such other terms and conditions as are specified by the Census Bureau in such exclusive license.

4.6.2 Exclusive License Terms. Upon filing of a patent application on a Subject Invention by the Census Bureau, the Collaborator shall have the option to acquire an exclusive license in the resulting patents at reasonable royalty rates upon the execution of an exclusive license agreement. The specific royalty rate shall be negotiated promptly after the Subject Invention is filed in the U.S. Patent and Trademark Office, provided that this option must be exercised by the Collaborator by written notice to the Census Bureau within three months from the date the U.S. Patent Application is so filed. The reasonable royalty rate for each exclusive license shall be based upon a portion of the selling price of the item attributable to the presence of claimed subject matter where such item is a machine, article of manufacture, product made by a process, or composition of matter as defined by the claims of the patents. Where the claimed subject matter relates to a process or method to be practiced under the claims of the patent, the royalty will be based upon the net savings attributable to the implementation of aid process or method, or, if the savings are not ascertainable, the amount of materials processed.

## **Article 5. Data and Publications**

5.1 Release Restrictions. The Census Bureau and the Collaborator shall have the right to use all Subject Data for their own internal purposes, but shall not release such Subject Data publicly except: (i) the Census Bureau and the Collaborator, when reporting on the results of this research, may publish Subject Data, subject to the provisions of articles 5.2 and 5.3 below; (ii) the Parties may release Subject Data that discloses any Invention in connection with the filing of a patent application; or, (iii) by mutual agreement. All Subject Data shall be freely releasable by either Party without the consultation or review detailed in articles 5.2 and 5.3 after one (1) year following the completion of this Agreement.

5.2 Proprietary Information. The Collaborator shall place a Proprietary notice on all information it delivers to the Census Bureau under this Agreement which the Collaborator asserts is proprietary. If the Census Bureau does not agree that the information is proprietary, the Census Bureau shall not accept such information. The Census Bureau agrees that any information properly designated as proprietary which is furnished by the Collaborator to the Census Bureau under this Agreement, or in contemplation of this Agreement, shall be used by the Census Bureau only for the purpose of carrying out this Agreement. Information designated as proprietary shall not be disclosed, copied, reproduced, or otherwise made available in any form whatsoever outside the U.S. Department of Commerce or to any other person, firm, corporation, partnership, association, or other entity without the consent of the Collaborator except as such information may be required to be disclosed under the Freedom of Information Act (5 U.S.C. § 552). The Census Bureau agrees to use its best efforts to protect information designated as proprietary from unauthorized disclosure. The Collaborator agrees that the Census Bureau is not liable for the disclosure of information designated as proprietary which, after notice to and consultation with the Collaborator, the Census Bureau determines may not lawfully be withheld or which a court of competent jurisdiction requires be disclosed.

5.3 Publication.

5.3.1 Submission for Publication. After consultation with the other Party, the Collaborator and the Census Bureau may submit for publication -- either jointly or independently -- the results of the research work associated with this project. Depending on the extent of contributions made, employees of the Collaborator or the Census Bureau may be cited as coauthors. In no event shall the name of the Collaborator (or any of its trademarks or trade names) or the name of the Census Bureau (or any of its trademarks or trade names) be used in any publication without prior written consent.

5.3.2 Agreement to Confer. The Census Bureau and the Collaborator agree to confer and consult prior to the publication of Subject Data to assure that no Proprietary Information is released and that patent rights are not jeopardized. Prior to submitting a manuscript for review which contains the results of the research under this Agreement, or prior to publication if no such review is made, each Party shall be offered an opportunity to review such proposed publication and to submit its objections in writing, and to file patent applications in a timely manner, if it is so entitled under this Agreement.

5.4 Copyright. Except as otherwise specifically provided in this Agreement, the Collaborator may establish claim to copyright in a work produced in the performance of this Agreement subject to 17 U.S.C. § 105. When a copyright claim is made, Collaborator shall affix the applicable copyright notice of 17 U.S.C. §§ 401 or 402 and acknowledgment of government sponsorship to the data when such data are delivered to the Government, as well as when the data are published or deposited for registration as a published work in the U.S. Copyright Office. The Collaborator grants to the U.S. Government a paid-up, nonexclusive, irrevocable, worldwide license for all such data to reproduce, prepare and own derivative works, distribute copies to the public, and perform publicly in any manner and for any governmental purpose.

## **Article 6. Termination**

6.1 Right to Terminate. The Collaborator and the Census Bureau each have the right to terminate this Agreement, which termination shall be effective 30 days after written notice of termination is received by the other Party.

6.2 Financial Obligations After Termination. In the event of termination by either Party, the financial obligations contained in the SOW, if any, shall continue.

#### **Article 7. Disputes**

7.1 Settlement. Disputes arising under this Agreement shall first be decided by agreement of the Project Managers. If the Project Managers are unable to agree, the dispute shall be submitted to the Principal Investigators for resolution. A joint decision of the Principal Investigators shall be the disposition of such dispute.

7.2 Panel Review. If the Principal Investigators are unable to jointly resolve a dispute within a reasonable period of time after submission of the dispute for resolution, the matter shall be submitted for resolution to a panel consisting of three members. The Census Bureau and the Collaborator shall each choose one member of the panel and both Parties shall agree upon the third member, who shall have expertise in geographic information.

7.3 Continuation of Work. Pending the resolution of any dispute or claim pursuant to this Article, the Parties agree that performance of all obligations shall be pursued diligently.

#### **Article 8. Liability**

8.1 Property. The U.S. Government shall not be responsible for damages to any property of the Collaborator provided to the Census Bureau or acquired by the Census Bureau pursuant to this Agreement.

8.2 Collaborator's Employees. The Collaborator agrees to indemnify and hold harmless the U.S. Government for any loss, claim, damage, or liability of any kind involving an employee of the Collaborator arising in connection with this Agreement, except to the extent that such loss, claim, damage or liability arises from the negligence of the Census Bureau or its employees.

8.3 Warranty. The Census Bureau makes no express or implied warranties to any matter whatsoever, including the conditions of the research or any invention or product, whether tangible or

intangible, made, or developed under this Agreement, or the ownership, merchantability, or fitness for a particular purpose of the research or any invention or product.

8.4 Indemnification. The Collaborator holds the U.S. Government harmless and indemnifies the Government for all liabilities, demands, damages, expenses, and losses arising out of the use by the Collaborator, or any party acting on its behalf of the Census Bureau's research and technical developments or out of any use, sale, or other disposition by the Collaborator, or others acting on its behalf, of products made by the use of the Census Bureau's technical developments. This provision shall survive termination of this Agreement and shall include all intellectual property rights, such as patents, copyrights, trademarks, and trade secrets.

8.5 Force Majeure. Neither Party shall be liable for any unforeseeable event not caused by the fault or negligence of such Party, which causes such Party to be unable to perform its obligations under this Agreement (and which it has been unable to overcome by the exercise of due diligence), including, but not limited to, flood, drought, earthquake, storm, fire, pestilence, lightning and other natural catastrophes, epidemic, war, riot, civic disturbance or disobedience, strike, labor dispute, or failure, shutdown due to lack of appropriated funds, threat of failure, or sabotage of the Census Bureau facilities, or any order or injunction made by a court or public agency. In the event of the occurrence of such a force majeure event, the Party unable to perform shall promptly notify the other Party. It shall further use its best efforts to resume performance as quickly as possible and shall suspend performance only for such period of time as is necessary as a result of the force majeure event.

#### **Article 9. Trademark - Use of Name and Endorsements**

9.1 Trademark. Any trademarks referring to products created under this Agreement shall be the property of the Census Bureau, which may, as appropriate, license such trademarks to Collaborator for marketing purposes.

9.2 Use of Census Bureau Name. The Collaborator shall not use the name of the Census Bureau or the Department of Commerce, or any trademark or service mark belonging to the Census Bureau or

the Department of Commerce, on any product or service which is directly or indirectly related to either this Agreement, or any patent license or assignment agreement which implements this Agreement, without the prior approval of the Census Bureau.

9.3 No Endorsements. By entering into this Agreement, the Census Bureau does not directly or indirectly endorse any product or service provided, or to be provided, by the Collaborator and Collaborator shall in no way imply that this Agreement is an endorsement of any such product or service.

#### **Article 10. Miscellaneous**

10.1 Governing Law. The construction, validity, performance, and effect of this Agreement for all purposes shall be governed by federal law.

10.2 Entire Agreement. This Agreement constitutes the entire agreement between the Parties concerning the subject matter hereof and supersedes any prior understanding or written or oral agreement relative to said matter.

10.3 Documents Constituting the Agreement. This Agreement consists of the CRADA Agreement itself, all SOWs that are executed in connection herewith, and all license agreements executed in connection herewith. To the extent that any of the documents are inconsistent, the documents shall assume the following order of precedence: first - the CRADA agreement, second - the various SOWs, third - the various license agreements.

10.4 Headings. Titles and headings of the sections and subsections of this Agreement are for the convenience of references only and do not form a part of this Agreement and shall in no way affect the interpretation thereof.

10.5 Assignment. Neither this Agreement nor any rights or obligations of any Party hereunder shall be assigned or otherwise transferred by either Party without the prior written consent of the other Party except that the Collaborator may assign this Agreement to the successors or assignees of a substantial portion of the Collaborator's business interests to which this Agreement directly pertains.

10.6 Notices. All notices pertaining to or required by this Agreement shall be in writing and shall be directed to the Signatories.

10.7 Independent Contractors. The relationship of the Parties to this Agreement is that of independent contractors and not as agents of each other or as joint venturers or partners. The Census Bureau shall maintain sole and exclusive control over its personnel and operations.

10.8 Foreign Control. Collaborator certifies that it is not subject to the control of any foreign company or government, and agrees to notify the Census Bureau within 30 days should it become subject to the control of a foreign company or government at any time during the term of this Agreement.

10.9 Survivability of Provisions. Neither the expiration nor the termination of this CRADA shall release the Parties from their rights, duties, and obligations under the following Articles: 3 (including financial terms set forth in the SOWs), 4.2, 4.6.1, 4.6.2, 5, 6.2, 7.1, 7.2, 8 and 9.

#### **Article 10. Term**

This Agreement shall be effective for four years from date of execution. The Parties, however, recognize that the development program set forth herein cannot be rigidly defined in advance, and that the contemplated time periods for completion of each SOW are good faith guidelines subject to adjustment by mutual agreement. Accordingly, this Agreement may be extended by mutual written agreement of the Signatories for a two-year term.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their Signatories as follows:

For the Collaborator: *Laura Dangermond* 3-5-97  
Date  
Title LAURA DANGERMOND  
Vice President

For the Census Bureau: *Don Wyzga* 2/21/97  
Date  
Director, Cooperative Research  
Laboratory

## **Exhibit "A"**

### **ESRI-Census Bureau CRADA Statement of Work #1**

#### **Spatial Data Software Development Program**

##### **1. Background**

This first SOW is oriented toward improving the public's access to the Census Bureau's statistical data. Both Collaborator and the Census Bureau are enthusiastic about a cooperative effort between a private firm and a federal agency to develop a public product comprised principally of geographic and statistical databases, as well as GIS tools, that will improve user access to existing census data sets.

SOW #1 is concerned with the development, marketing and distribution of consumer software products that combine the Census Bureau's statistical and geospatial data with software developed using Collaborator's data access and graphic display and analysis tools.

##### **2. Definitions**

The definitions set forth in the CRADA Agreement are incorporated into this SOW. The following additional definitions are required:

The term "the Product" means the software together with data files which will be developed in accordance with the research plan described in this SOW.

The term "Net Sales" means the amount billed, invoiced or received, whichever first occurs, on sales of the Product to an independent third party, or in the event of a disposal of a Product other than as scrap prior to its shipment from its place of manufacture or predisposal storage or other than sales, the amount billed, invoiced or received on sales of a like quantity and quality of the Product to an independent third party on or about the time of such disposal, less:

a. customary trade, quantity or cash discounts and non-affiliated brokers' or agents' commissions actually allowed and taken;

b. amounts repaid or credited by reason of rejections or returns; and/or

c. any freight or other transportation costs, insurance, duties, tariffs and all sales and excise taxes based directly on sales or turnover of the Product.

The term "MO" means Map Objects software.

The term "MO IDK" means Map Objects Internet Development Kit software.

The term "SDE" means Spatial Database Engine software.

### **3. General Description of Areas of Research**

This SOW envisions a research program involving consumer product development in the following areas:

- (a) identification and selection of appropriate statistical and geographic data sets,
- (b) determination of geographic levels of presentation,
- (c) decisions on the functionality of software with respect to the graphic presentation and analysis capabilities,
- (d) development of a software application meeting functional requirements and targeted operating environments,
- (e) development of a package of materials, for inclusion with the Product, describing census processes and promoting their importance to the general public in an effort to increase public participation in responding to the censuses and surveys, and
- (f) development of a marketing plan for commercial promotion and distribution of the Product.

#### 4. Specifics of the Research Program

The following research activities will be undertaken:

- (a) The Parties will, in a JWO, assign individuals to design the Product ("the Design Team"). The Design Team shall:
  - (i) specify Product content, including geographic and statistical data and census promotion information, and
  - (ii) specify Product functionality, such as mapping, geospatial/statistical queries, and geocoding, and
  - (iii) ensure that user requirements are met.
- (b) Collaborator will support the Census Bureau by supplying Collaborator-developed software, including, as required, MO and MO IDK along with appropriate training.
- (c) The Census Bureau will obtain OLE development tools (Visual Basic, Delphi, or similar tool) necessary to build the Product and to maximize developer training.
- (d) The Census Bureau will provide Collaborator its geographic and statistical data files. Collaborator will provide the balance of required data files, such as ZIP Code polygons.
- (e) The Parties will, in a JWO, assign individuals to develop the Product ("the Development Team"). The Development Team shall participate in work session(s) to meet the following project objectives:
  - (i) preparation and processing of statistical and geospatial data, and
  - (ii) development of the Product based on Map Objects and Map Objects Internet Development Kit tools and requirements specified by Design Team, and

- (iii) production of a prototype of the Product for evaluation by the Design Team, and
- (iv) plan to produce the final Product by a to-be-agreed upon date.
- (f) The Design and Development Teams may participate in joint work session(s) to meet the project objectives.
- (g) Collaborator will manufacture and market the Product.
- (h) Collaborator will independently sell the Product and serve as distribution center for Product delivery.
- (i) While the specifics will be determined at a later date, the Parties expect that the Collaborator will create a fee-basis technical support capability and the Census Bureau will offer general Product support.
- (j) Collaborator and the Census Bureau agree to meet as required to review this SOW. The Design and Development Teams will meet as needed.

## **5. Resources Provided by the Parties**

The Census Bureau. The Census Bureau will provide the following personnel, services, facilities, equipment, intellectual property and other resources to support this SOW:

- (a) adequate staffing resources to meet project schedules, and
- (b) sufficient computer hardware and software to meet staff/project requirements, and
- (c) adequate space and equipment for Product development and research activities, and
- (d) adequate staffing to respond to general Product inquiries, and
- (e) Cooperative Research Laboratory staff for oversight.

Collaborator. Collaborator will provide the following personnel, services, facilities, equipment, intellectual property and other resources to support this SOW:

- (a) adequate staffing resources to meet project schedules, and
- (b) sufficient computer software to meet staff/project requirements, including MO and MO IDK, and
- (c) training of Census staff in MO and MO IDK, and
- (d) adequate space and equipment for Product development and research activities, and
- (e) a channel for Product marketing and distribution, and
- (f) warehousing capacity for Product distribution requirements, and
- (g) staffing for technical support inquiries.

## **6. Financial Requirements**

The Census Bureau and Collaborator will each pay their own costs for the resources listed in Section 5, above; Collaborator shall not be required to reimburse the Census Bureau for its costs.

Collaborator shall pay to the Census Bureau 10% of Net Sales, as defined in this SOW.

The 10% payment shall be payable quarterly, no later than 30 days after the end of each quarter in Collaborator's fiscal year, via check made payable to the United States Census Bureau, delivered to the Project Manager.

Collaborator shall provide the Census Bureau with an annual report of its sales of the Product. Collaborator agrees that it will retain all its financial records pertaining to the Product for at least two years after termination or expiration of the CRADA. Collaborator further agrees that it will make these financial records available, on reasonable notice, to the Census Bureau or its agent during the term of this CRADA and for at least two years

after termination or expiration so that the Census Bureau or its agent may audit Collaborator's compliance with the financial terms of this CRADA.

## **7. Marketing**

Collaborator will market the Product. The Parties envision that Collaborator will use both mail order and commercial distribution outlets not currently available for distribution of Census Bureau products.

Collaborator will provide several complementary copies of the Product to the Census Bureau, which copies the Census Bureau agrees to use for its own internal purposes only.

Prior to marketing or selling the Product, Collaborator shall submit a marketing plan to the Census Bureau for review. If the marketing plan is submitted as part of a JWO it shall be prominently identified as the marketing plan.

The Census Bureau shall facilitate sales of the Product, including by referring all Product inquiries to Collaborator. The marketing plan or JWOs may specify additional way in which the Census Bureau shall facilitate sales of the Product.

The Parties agree that the Product, when commercially marketed by the Collaborator, shall indicate in a manner mutually agreed to by the Parties that it is the result of a collaboration between Collaborator and the Census Bureau. As provided in the CRADA, Product names or designations must be approved by the Census Bureau. Designations which the Census Bureau would approve include:

- "Prepared in consultation with the Census Bureau"
- "Prepared in collaboration with the Census Bureau"
- "Prepared under a Cooperative Research and Development Agreement with the Census Bureau"

Collaborator may suggest other designations to the Census Bureau, but other designations will require specific written approval prior to their use.

Use of the Census Bureau's trademarks, including "the Official Statistics" and "TIGER" will be authorized if presented in a non-misleading fashion designed to accurately convey to the public the Census Bureau's role in Product development.

## **8. Starting Date**

Product development shall begin immediately after the Census Bureau and Collaborator sign the CRADA and this SOW.

## **9. Principal Investigators and Project Managers**

Collaborator. Collaborator designates the following individuals as its Principal Investigator and Project Manager:

Laura Dangermond, Principal Investigator  
Vice President  
Environmental Systems Research Institute, Inc.  
380 New York Street  
Redlands, CA 92373  
(909) 793-2853

Bill McNeil, Project Manager  
Environmental Systems Research Institute, Inc.  
380 New York Street  
Redlands, CA 92373  
(909) 793-2853

The Census Bureau. The Census Bureau designates the following individuals as its Principal Investigator and Project Manager:

Joel Morrison, Principal Investigator  
Bureau of the Census  
Washington, D.C. 20233  
(301) 457-1132

Robert LaMacchia, Project Manager  
Bureau of the Census  
Washington, D.C. 20233  
(301) 457-1022

10. Signatures

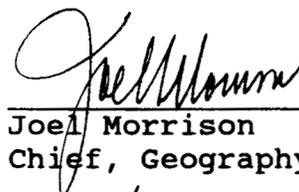
The Parties are executing this SOW, evidenced by the signatures of the Principal Investigators, as follows:

For Collaborator:

  
\_\_\_\_\_  
Laura Dangermond  
Vice President

3-5-97  
\_\_\_\_\_  
Date

For the Census Bureau:

  
\_\_\_\_\_  
Joel Morrison  
Chief, Geography Division

2/20/97  
\_\_\_\_\_  
Date

## **Exhibit "B"**

### **ESRI-Census Bureau CRADA Statement of Work #2**

#### **TIGER Research Program**

##### **1. Background**

The second SOW is oriented toward improving the Census Bureau's TIGER data.

TIGER was developed by the Census Bureau during 1985-88 on a Unisys main frame. TIGER database management and application software was an in-house software development project due to the lack of available commercial software and the Census Bureau's internal computer processing environment. While the TIGER system served past needs for Census geographic data support exceedingly well, the current and future demands for this type of support require modernizing the TIGER processing environment to take advantage of the many advances in computer science over the past few years. Converting TIGER to a commercial relational database would relieve the software maintenance burden for the Census Bureau's internal database management system, and would allow the Census Bureau to take advantage of the many data access, data manipulation, and application development tools available in a modern database system.

This cooperative research effort merges the benefits of private sector technological developments with access to a wealth of census data collected by the nation's official statistical agency. The potential result is more efficient dissemination of public information, oriented more toward user requirements than ever before.

##### **2. Definitions**

The definitions set forth in the CRADA Agreement are incorporated into this SOW. The following additional definitions are required:

The term "TIGER" means the Topologically Integrated Geographic Encoding and Referencing, a spatial database maintained by the Census Bureau.

The term "SDE" means Spatial Database Engine software.

### **3. General Description of Areas of Research**

This SOW involves research and development on the use of Collaborator technology to replace the Census Bureau-developed technology now used in TIGER. The Census Bureau and Collaborator will produce prototype systems that are mutually beneficial to efficiently exploit Census data by the government and the Collaborator by engaging in the following activities:

- (a) supplying the Census Bureau with the appropriate Collaborator-developed software, including SDE, and appropriate training of Census Bureau employees,
- (b) training of Collaborator employees in Census Bureau geographic processing requirements,
- (c) design of prototype databases and retrieval and update software to support Census Bureau requirements, and
- (d) evaluation of the effectiveness of these prototypes through appropriate tests.

### **4. Specifics of the Research Program**

The following activities are to be undertaken:

- (a) The Parties will, in a JWO, assign individuals from their technical/programming staff to design the prototype database ("the Design Team"). The Design Team shall specify and design a prototype Oracle/SDE database of TIGER road features, and
- (b) Collaborator will support the Census Bureau by supplying SDE software and training, and
- (c) The Census Bureau will develop a translator to create an Oracle database from current TIGER partitions, and
- (d) Collaborator will provide consulting services and laboratory facilities to the Census Bureau for development of the translator, and

- (e) The Census Bureau and Collaborator will evaluate the results of a digital exchange process using TIGER road features in Oracle/SDE, and
- (f) The Census Bureau will create TIGER map products using Oracle/SDE with Collaborator mapping tools, and
- (g) The Design Team will meet as required.

## **5. Resources Provided by the Parties**

The Census Bureau. The Census Bureau will provide the following personnel, services, facilities, equipment, intellectual property and other resources to support this SOW:

- (a) adequate staffing resources to meet project schedules, and
- (b) sufficient computer hardware and software to meet staff/project requirements, and
- (c) adequate space and equipment for research activities, and
- (d) Cooperative Research Laboratory staff for oversight.

Collaborator. Collaborator will provide the following personnel, services, facilities, equipment, intellectual property and other resources to support this SOW:

- (a) adequate staffing resources to meet project schedules, and
- (b) Sufficient computer software to meet staff/project requirements, including SDE, and
- (c) training of Census staff in SDE, and
- (d) adequate space and equipment for research activities.

## **6. Financial Requirements**

The Census Bureau and Collaborator will each pay their own costs for the resources listed in Section 6, above; Collaborator shall not be required to reimburse the Census Bureau for its costs.

No money shall be exchanged between the Parties on account of this SOW.

## **7. Marketing**

No marketing is required.

## **8. Starting Date**

The Parties will agree on a starting date.

## **9. Principal Investigators and Project Managers**

Collaborator. Collaborator designates the following individuals as its Principal Investigator and Project Manager:

Laura Dangermond, Principal Investigator  
Vice President  
Environmental Systems Research Institute, Inc.  
380 New York Street  
Redlands, CA 92373  
(909) 793-2853

Mike Tait, Project Manager  
Environmental Systems Research Institute, Inc.  
380 New York Street  
Redlands, CA 92373  
(909) 793-2853

The Census Bureau. The Census Bureau designates the following individuals as its Principal Investigator and Project Manager:

Joel Morrison, Principal Investigator  
Bureau of the Census  
Washington, D.C. 20233  
(301) 457-1132

Jack George, Project Manager  
Bureau of the Census  
Washington, D.C. 20233  
(301) 457-1018

**10. Signatures**

The Parties are executing this SOW, evidenced by the signatures of the Principal Investigators, as follows:

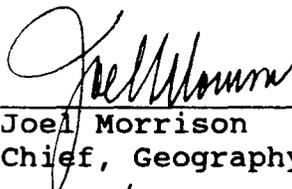
For Collaborator:



Laura Dangermond  
Vice President

3-5-97  
Date

For the Census Bureau:



Joel Morrison  
Chief, Geography Division

2/26/97  
Date